REMARKS

Claims 1-5 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Thomas et al. (U.S. Patent Application Publication Number 20010050633, hereinafter "Thomas"). Respectfully disagreeing with these rejections, reconsideration is requested by the applicant.

Independent claim 1 recites "receiving, at a master site, information from a GPS satellite that indicates a position of the satellite and a satellite time-of-day." Regarding this portion of claim 1, the Examiner cites Thomas [0043-0044] and [0046-0047] as teaching this claim language. Thomas [0043-0047] reads (emphasis added):

> [0043]FIG. 3 illustrates a preferred embodiment of system for distributing accurate time and time of day and determining position of mobile receiving units. As shown, the system preferably consists of two different models of time/data distribution transmitters and any number of mobile receiving units, which may be cellular telephones, personal digital assistants (PDA's) or similar devices such as the Palm Pilot. The two different models of time/data distribution transmitters are referred to as a Base Model and a Slave Model. Both models are ground based transmitters that are positioned at fixed locations. The time/data distribution transmitters will transmit signals to the mobile receiving units implemented in various hand held devices, such as cellular phones and/or personal digital assistance modules (PDA's).
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> [0044]In a preferred embodiment, the Base Models **receive accurate time and time of day information from multiple GPS satellites** and transmit that information to the various Slave Models in order to calibrate the internal clocks within the Slave Models. Both the Base and Slave Models transmit data signals to the mobile receiving units.
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> [0045]Base Models
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> [0046]FIG. 4 illustrates a preferred embodiment of a Base Model. The function of the Base Model is to **receive precise TIME AND TIME OF DAY information** from a GPS receiver at a fixed location. And then to retransmit that information in a dedicated frequency band and unique time slot so as to provide the equivalent of a GPS signal in a local terrestrial area, including areas where GPS coverage is not otherwise available or reliable, such as is found between and inside large buildings or under heavy foliage. The Base Model will also be used to provide one of the necessary three or four (if elevation is required) source locations needed for determining the geographic location of a mobile receiving unit.

[0047]In a preferred embodiment, the Base Model includes a GPS receiver 401 which receives a GPS signal from a GPS antenna for **receiving accurate TIME and TIME OF DAY information from a GPS satellite.** The Base Unit is also equipped with a precision oscillator (rubidium or equivalent) 402which generates an internal TIME OF DAY clock signal that is disciplined by the GPS signal, in order to correct for errors that may be introduced into the system by atmospheric conditions or radio frequency interference (including deliberate jamming of the GPS signal).

The applicant submits that Thomas [0043-0047], as cited by the Examiner, fail to teach or suggest receiving, at a master site, **information from a GPS satellite that indicates a position of the satellite** and a satellite time-of-day, as claim 1 recites.

Independent claim 1 recites "determining, using the position of the satellite and a pre-determined position of the master site, a time-of-day error value that represents a difference between the satellite time-of-day, adjusted for a transit time of the information, and a corresponding master site time-of-day as reported by a master site, nanosecond-accurate clock." Regarding this portion of claim 1, the Examiner cites Thomas [0020, 0025, 0026, 0047, 0144 and 018-0149] as teaching this claim language. Thomas [0020, 0025, 0026, 0047, 0144] reads (emphasis added):

[0020]Using Hyperbolic Navigation, location of any point on a surface can be determined by measuring a signal travel time from three different known fixed locations, if the velocity of the signal is known and the signal travels by way of a direct path (line-of-sight). FIG. 2 illustrates the concept of Hyperbolic Navigation. Using Hyperbolic Navigation, the location of a point on a surface can be determined if the difference in the distances from at least three fixed locations to the unknown location is measured. This can be done by measuring the time delay for a signal to travel from each of the three known locations to the unknown location. Accordingly, Hyperbolic Navigation permits the determination of location of a portable device without the need for a precise TIME or TIME OF DAY clock in the portable device. In this case, the precise TIME OF DAY must be known at the three fixed points, but only relative time is needed at the location in question. Again the signal travel must be via a line-of- sight path.

...

[0025]Moreover, when using GPS, precise TIME and TIME OF DAY can be acquired and maintained at fixed locations provided that these locations have a clear view of the sky that permits the reception of signals from multiple GPS satellites at the same time. In order to determine accurate position using GPS, signals must be received from a minimum of three satellites (four if elevation information is also required). Therefore, signal reception for determining position requires approximately a 120° unobstructed view of the sky. Accordingly, GPS will not work in buildings or areas with high-rise building or heavy foliage, such as forests. Additionally, because GPS signal are required to travel such great distances, they require large amounts of power to generate and are

often very weak by the time they reach their intended location on the surface of the earth.

[0026]Accordingly, what is needed is a way for providing accurate TIME and TIME OF DAY and determining position within all areas, including inside buildings and areas of heavy foliage, such as forests. What is further needed is a means for doing so which does not require as much power in the receiving equipment when used in light weight portable receivers such as in cell phones. What is further needed is a system that operates in a much lower frequency band in order to permit signal penetration of buildings and lower cost receivers. What is further needed is a system that provides very efficient utilization of the limited radio frequency spectrum that is available for these applications. What is further needed is a system for determining TIME, TIME OF DAY and geographic position that is more accurate, i.e. accurate to within several nanoseconds and a few feet.

...

[0047]In a preferred embodiment, the Base Model includes a GPS receiver 401which receives a GPS signal from a GPS antenna for receiving accurate TIME and TIME OF DAY information from a GPS satellite. The Base Unit is also equipped with a precision oscillator (rubidium or equivalent) 402which generates an internal TIME OF DAY clock signal that is disciplined by the GPS signal, in order to correct for errors that may be introduced into the system by atmospheric conditions or radio frequency interference (including deliberate jamming of the GPS signal).

...

[0144]The determination of the physical distance and the electrical distance (the distance as determined by the radio transmission time **from a GPS equipped site to the Slave Model site**) is only slightly complicated. The process for determining the electrical distance is as follows:

The applicant submits that these passages of Thomas fail to teach or suggest determining, **using the position of the satellite** and a pre-determined position of the master site, a **time-of-day error value** that represents a **difference between the satellite time-of-day, adjusted for a transit time of the information, and** a corresponding **master site time-of-day** as reported by a master site, nanosecond-accurate clock, as claim 1 recites. The applicant notes that the Examiner has also cited Thomas [018-0149]. The applicant is unsure to what exactly the Examiner may be referring in these 130 paragraphs printed across more than 7 pages of text. Thus, the applicant requests that the Examiner more particularly point out the portions of the text on which the rejection is based.

Independent claim 1 recites "broadcasting to at least one slave site an indication of the time-of-day error value and the corresponding master site time-of-day." Regarding this portion of claim 1, the Examiner cites Thomas [0047, 0081-0082], which

reads (emphasis added):

> [0047]In a preferred embodiment, the Base Model includes a GPS receiver 401which receives a GPS signal from a GPS antenna for receiving accurate TIME and TIME OF DAY information from a GPS satellite. The Base Unit is also equipped with a precision oscillator (rubidium or equivalent) 402which generates an internal TIME OF DAY clock signal that is disciplined by the GPS signal, in order to correct for errors that may be introduced into the system by atmospheric conditions or radio frequency interference (including deliberate jamming of the GPS signal).
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> ...
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> [0081]FIG. 5 illustrates a preferred embodiment of a Slave Model. In a preferred embodiment a Slave Model is almost identical to a Base Model, except that it does not include a GPS receiver. Instead, **a Slave Model receives TIME OF DAY signals** from a Base Model within a predetermined distance of up to XXX miles and compares the signal with its own internal TIME OF DAY clock signal generated by a precision oscillator 502 within the Slave Model in order to calibrate its own internal TIME OF DAY clock signal. Accordingly, as is shown in FIG. 5, the Slave Model is equipped with a precision oscillator (rubidium or equivalent) 502 which generates an internal TIME OF DAY clock signal that is disciplined by **a TIME OF DAY signal received from a Base Model** in the same cell as the Slave Model, in order to correct for errors that may be introduced into the system by atmospheric conditions or radio frequency interference.
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> [0082]In a preferred embodiment, the Slave Model also includes an Error Compensation Module 503which includes software instructions for **accounting for delays in receiving the TIME OF DAY SIGNAL transmitted out to Slave Models from the Base Model** in the same cell. This process shall be described further hereinafter.

The applicant submits that these passages of Thomas fail to teach or suggest broadcasting to at least one slave site an indication of **<u>the</u> time-of-day error value** and the **corresponding master site time-of-day**, as claim 1 recites. Thus, **both** the master site time-of-day **and** an error value are being indicated in the broadcast. In addition, the applicant notes that the time-of-day error value represents a difference between the satellite time-of-day (the satellite time-of-day being indicated by information **from a GPS satellite**), adjusted for a transit time of the information, and a corresponding master site time-of-day. Clearly then, the claimed time-of-day error value is different than the errors / delays in receiving the TIME OF DAY SIGNAL transmitted out to Slave Models **from the Base Model** accounted for in Thomas [0082].

Since none of the references cited, either independently or in combination, teach all of the limitations of independent claim 1, or therefore, all the limitations of their

respective dependent claims, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown. No remaining grounds for rejection or objection being given, the claims in their present form are asserted to be patentable over the prior art of record and in condition for allowance. Therefore, allowance and issuance of this case is earnestly solicited.

The Examiner is invited to contact the undersigned, if such communication would advance the prosecution of the present application. Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc.**

Respectfully submitted,
B. Drawert

By: [signature]

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